

REMARKS

Initially, applicant would like to thank Examiner San Martin for the helpful and courteous telephonic interview he conducted with one of applicant's representatives on 21 November 2005, in conjunction with the present application and the Office Action of 21 September 2005. During the interview, arguments on the distinctions and advantages of the invention were discussed, and the Examiner suggested including same in a formal response to the Office Action, which applicant has done herein. However, no specific agreement was reached.

Upon entry of the present Amendment-B, the claims in the application are claims 1-19, of which claims 1 and 12 are independent.

The above-identified Office Action has been reviewed, the applied references carefully considered, and the Examiner's comments carefully weighed. In view thereof, the present Amendment-B is submitted. It is contended that by the present amendment, all bases of rejection set forth in the Office Action have been traversed and overcome. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

In the above amendments: claims 10 and 12 have been amended to overcome minor informalities, while claim 19 further defines that the plate-like valve is reinforced in an intermediate portion thereof.

Applicant respectfully submits that the above amendments are fully supported by the original disclosure including drawings, and that no new matter is introduced into the application by the above amendments.

Claim Objections

In the Office Action (page 2, item 1), claim 10 has been objected for a typographical informality.

Applicant's Response:

In view of the above amendments, applicant respectfully submits that the objection is overcome, and requests reconsideration and withdrawal of same.

Claim Rejections – 35 USC §102

In the Office Action (page 2, item 2), the Examiner provides a rejection of claims 1-7 and 11-17 under 35 USC §102(b) as allegedly anticipated by Kamikane (JP 2001-123817).

In his rejection of claims 1, 2, 4, 12, and 13, the Examiner states that Kamikane teaches a valve device 4 for a silencer 1, which opens a bypass passage provided in the silencer to flow exhaust gas through the bypass passage when exhaust gas pressure rises to a certain pressure, the valve device comprising a base 14 having a valve opening 41 through which exhaust gas flows; a plate-like valve 43 which opens and closes the valve opening; a stopper 46 which restricts the degree of opening of the plate-like valve; and a plate-like spring urges the plate-like valve towards a closed position thereof. With respect to rejection of claims 3, 5-7, 11 and 14-17, the Examiner considers that Kamikane teaches limitations of these claims.

Applicant's Response:

Upon careful consideration and in light of the above amendments, applicant respectfully traverses such rejections and submits that each of present claims 1-7 and 11-17 is clearly patentably distinct over the disclosure of Kamikane based on the following.

Initially, applicant notes that Kamikane discloses a valve gear having a flat leaf spring 47 having one end obliquely abutting against an open-side face of a tabular plate valve 43 wherein the tabular plate valve 43 bends, in response to the exhaust pressure in a second silence room 32 allowing exhaust gas to flow to a first silence room 31 (Figs. 1 through 3, paragraphs 0014-0023 of English translation). Further, Kamikane teaches that the tabular valve 43 and flat spring 47 are

made of quality material, for example, INCO718 (an elevated temperature and high intensity nickel system alloy), and a board thickness of the tabular valve 43 is 0.15mm and that of the flat spring 47 is 0.10mm, i.e., the board thickness of the tabular valve 43 is greater than that of flat spring 47 (paragraph 0021 of the English translation).

Given the flat, uniform construction of the tabular valve 43, applicant respectfully submits that Kamikane fails to teach or in any way suggest that the valve is *bent at both side edges thereof* in a certain range extending from its distal end toward the proximal portion, as required by claim 1, or that the valve 43 is *reinforced against deflection* in a certain range extending from its distal end toward the proximal portion, as required by claim 12. Thus, it is respectfully submitted that the Examiner's allegation regarding anticipation of the discussed features is contradicted by Kamikane's actual disclosure.

Further, since the tabular valve of Kamikane does not include specific reinforced portion(s) thereon, Kamikane fails to teach that the plate spring member abuts on a reinforced area of the plate-like valve, as required by claims 2 and 13.

Still further, Kamikane fails to teach or suggest additional limitations of dependent claims 3-7, 11 and 13-17, including a spring member bent to form a curved surface as defined in claim 3 (noting the planar shape of Kamikane's leaf spring 47); a stopper member, a plate-like valve and a base fixed together by welding as defined in claims 5, 15 (noting Kamikane's use of bolts 45); etc.

Applicant respectfully suggests that the above distinctions of the claimed invention are significant because the claimed structure is advantageous over the prior art, including Kamikane. For example, because the plate-like valve of the claimed valve device is bent at both side edges thereof in a certain range extending from its distal end toward the proximal portion, the stiffness

of the plate-like valve against deflection at the time of opening/closing the valve is improved.

Also, during the operation of a conventional valve device, generally, resonance occurs at the distal end of the plate-like valve. However, operating the valve device of the claimed invention is not likely to cause resonance because the flexural rigidity of the plate-like valve of the claimed device increases in a certain range from the distal end toward the proximal portion because the plate-like valve is bent at both side edges thereof. Thus, the claimed valve device provides improved, unobvious engine output while reducing exhaust noise.

Further, the claimed invention, particularly as recited in claims 2 and 13, provides abutting of the plate spring member on the reinforced area of the plate-like valve, which is advantageous over the applied reference because such abutting of the plate spring member on the reinforced area stably applies an urging force to the plate-like valve.

For all of the foregoing reasons, applicant requests consideration and withdrawal of the rejection of claims 1-7 and 11-17 under 35 USC § 102(b).

Claim Rejections – 35 USC §103

In the Office Action (page 3, item 3), the Examiner provides a rejection of claims 8-10 and 18 under 35 USC §103(a) as being unpatentable over Kamikane (JP 2001-123817).

In his rejection of claims 8 and 18, the Examiner states that Kamikane teaches limitations discussed in relation to rejection of claims 1-7 and 11-17, but fails to disclose that a distal end of the plate spring member which operatively engages the valve is bent to form a curved surface. The Examiner considers that it would have been obvious matter of design choice to provide a bent to the distal end of the plate spring in order to facilitate the spring to slide over the surface of the valve when the valve is in open position. With respect to rejection of claims 9 and 10, the

Examiner considers that it would have been obvious matter of design choice to include a second plate, which urges the valve toward a close position.

Applicant's Response:

Upon careful consideration and in light of the above amendments, applicant respectfully traverses such rejections and submits that each of present claims 8-10 and 18 is clearly patentably distinct over the disclosure of Kamikane for reasons discussed above in relation to the independent claims, and for the reasons given below.

Initially, applicant respectfully submits that the Examiner's proposed hypothetical modifications of the valve gear of Kamikane to include claimed features are improperly based on suggestions coming entirely from the Examiner (guided by impermissible hindsight of applicant's disclosure), rather than on any teaching or suggestion which may be fairly gleaned from Kamikane's actual disclosure. Here, Kamikane's leaf spring 47 is a singular, planar member, whereas Kamikane's disclosure otherwise provides no suggestion or motivation to modify the structure of the leaf spring or add a second leaf spring. In short, there is no evidence to support the Examiner's allegations, whereby there is an insufficient factual basis to support a prima facie obviousness rejection under 35 USC §103 (a).

Thus, it is respectfully submitted that the Examiner fails to establish prima facie obviousness for rejection of each of claims 8-10 and 18, and therefore, these claims are believed to be clearly patentably distinct over the applied references.

For all of the foregoing reasons, applicant requests consideration and withdrawal of the rejection of claims 8-10 and 12 under 35 USC § 103(a).

Other Matters

The additional references cited by the Examiner on the form PTO-892 included with the

Office Action – US patents 1,599,414 to Huff; 1,614,124 to Hansen; 4,079,808 to Mizuno et al.; 4,179,883 to Nishiyama et al.; 4,484,659 to Buchwalder; 5,614,699 to Yashiro et al.; 6,065,564 to Uegane; 6,079,516 to Pearson; 6,173,808 to Maeda et al. and 6,899,199 to Sageman, and foreign patents DE-19957711 to Uegane; and both JP-2002180815 and JP-2004124905 to Kamikane et al. – have been considered by applicant. However, applicant respectfully submits that these additional references fail to overcome the deficiencies of the applied reference, Kamikane, as discussed in relation to the present claims hereinabove.

New claim 19 is believed to be allowable for reasons discussed in relation to claim 12, and for the merit of the additional feature recited therein.

Conclusion

In conclusion, applicant has overcome the Examiner's objection and rejections as presented in the Office Action; and moreover, applicant has considered all of the references of record, and it is respectfully submitted that the invention as defined by each of present claims 1-18 is patentably distinct thereover.

Applicant respectfully submits that all of the above amendments are fully supported by the original application. Applicant also respectfully submits that the above amendments do not introduce any new matter into the application.

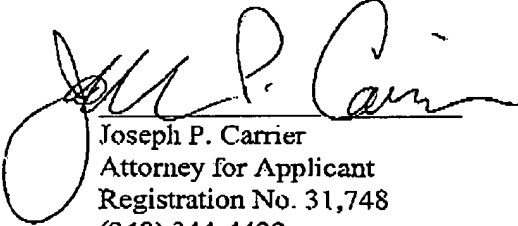
The application is now believed to be in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner is not fully convinced of all of the claims now in the application, applicant respectfully requests that he telephonically contact applicant's undersigned representative to expeditiously resolve prosecution of the application.

Favorable reconsideration is respectfully requested.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being transmitted via facsimile to the US Patent and Trademark Office, Art Unit 2837, on 13 December 2005, at the number (571) 273-8300.

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